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TUESDAY, MAY 3, 1977

PART II

ENVIRONMENTAL PROTECTION AGENCY

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LIME MANUFACTURING PLANTS

Standards of Performance and Addition to List of Categories of Stationary Sources

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 60]

[FRL 704-1]

STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Lime Manufacturing Plants

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: The proposed standards would limit emissions of particulate matter from new, modified, and reconstructed lime manufacturing plants. The standards implement the Clean Air Act and are based on the Administrator's determination that lime manufacturing plant emissions contribute significantly to air pollution. The intended effect is to require new, modified, and reconstructed lime manufacturing plants to use the best demonstrated system of emission reduction.

DATES: Comments must be received on or before July 5, 1977.

ADDRESS: Comments should be submitted, preferably in triplicate, to the Emission Standards and Engineering Division, Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention: Mr. Don R. Goodwin.

The Standards Support and Environmental Impact Statement (SSEIS) may be obtained from the Public Information Center (PM-215), U.S. Environmental Protection Agency, Washington, D.C. 20460 (specify "Standards Support and Environmental Impact Statement, Volume 1: Proposed Standards of Performance for Lime Manufacturing Plants").

All public comments received will be available for inspection and copying during normal business hours at EPA's Public Information Reference Unit, Room 2922 (EPA Library), 401 M Street SW., Washington, D.C.

FOR FURTHER INFORMATION CONTACT:

Don R. Goodwin, Emission Standards and Engineering Division, Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone number 919-688-8146, extension 271.

SUPPLEMENTARY INFORMATION:

Summary of Environmental and Economic Impacts

The proposed standards could impact an estimated 6.8 teragrams (7.5 million tons) of lime manufacturing capacity by 1982. About one-third of that would be due to replacement of existing facilities and the remainder due to installation of equipment needed for expansion of industry capacity. EPA estimates that approximately 8 to 10 new rotary lime kilns and one new lime hydrator will be built each year for the next five years.

The proposed standards would reduce national particulate emissions from lime manufacturing plants by about 13 gigagrams (about 14,200 tons) through 1982. This reduction would be accomplished with only minimal adverse environmental impacts on water pollution and solid waste handling and disposal. National energy consumption would be decreased slightly by the equivalent of nine cubic meters or about 55 barrels of No. 6 fuel oil per day in 1982.

Total incremental investment costs through 1982 to meet the proposed standards are projected to be about $3 million. The annualized costs in 1982, including depreciation and interest, are estimated to be about $5 million. The potential price increase that would result from implementation of the proposed standards for new or reconstructed kilns has been estimated to be about 80 cents per megagram of lime produced, or an increase of approximately 2.6 percent. The costs for control of particulate emissions from the affected facilities are considered reasonable.

The proposed particulate standard for rotary lime kilns is based on the use of a baghouse or an electrostatic precipitator. Use of either of these systems would result in minimal adverse environmental impacts. A venturi scrubber could also be used to meet the standards. Although venturi scrubbers would result in an additional beneficial environmental impact by reducing SO_2 emissions by about 7 percent, they would also result in adverse impacts on solid waste disposal, water pollution, and energy consumption.

The proposed particulate standard for lime hydrators is based on the use of a scrubber. Since the typical State standard for this facility also requires the use of a scrubber, there would be minimal environmental impacts associated with the proposed standard. The incremental energy required is small, an increase of less than one percent. All of the collected particulate matter could be recycled to the unit along with the scrubbing water. Therefore, there would be no adverse environmental impacts on solid waste disposal or water pollution.

Rationale for the Proposed Standards

The proposed standards would require the best demonstrated technology, considering costs, for the control of particulate matter emissions be installed and properly operated at new, modified, and reconstructed lime manufacturing plants. The proposed standards were developed based on information derived from (1) available technical literature on the lime manufacturing industry and applicable emission control technology, (2) technical studies performed for EPA by independent research organizations, (3) information obtained from the industry during visits to lime plants and meetings with various representatives of the industry, (4) comments and suggestions solicited from experts, and (5) the results of emission measurements conducted by EPA and the industry.

It should be noted that standards of performance for new sources established under section 111 of the Clean Air Act reflect emission limits achievable with the best demonstrated systems of emission reduction considering the cost of such systems. State implementation plans (SIP's) approved or promulgated under section 110 of the Act, on the other hand, must provide for the attainment and maintenance of national ambient air quality standards (NAAQS) designed to protect public health and welfare. For that purpose SIP's must in some cases require greater emission reductions than those required by standards of performance for new sources. For example, EPA's Interpretative Ruling (41 FR 55524, December 21, 1976) on the construction of a new or modified source in an area that exceeds a NAAQS requires, among other things, that the new source must meet an emission limitation which reflects the "lowest achievable emission rate" for such type of source. At a minimum, the lowest rate achieved in practice would have to be specified unless the applicant can demonstrate that it cannot achieve such a rate. In no event could the rate exceed any applicable standard of performance for new sources.

This stringent requirement reflects EPA's judgment that a new source should be allowed to emit pollutants into an area violating a NAAQS only if its contribution to the violation is reduced to the greatest degree possible. While cost of achievement may be an important factor in determining a standard of performance for new sources applicable to all areas of the country (clean as well as dirty) as a minimum, the cost factor must be accorded far less weight in determining an appropriate emission limitation for a source locating in an area violating statutorily-mandated health and welfare standards. Thus, while there may be technology available for new sources which have been determined not to be appropriate for standards of performance purposes, because of the greater consideration of the cost factor, this technology still should be considered for purposes of determining the "lowest achievable emission rate" for such type of sources. The existence of a standard of performance for new sources should not be viewed as the ultimate in achievable control and should not limit the imposition of a more stringent standard, where appropriate.

In addition, States are free under section 116 of the Act to establish even more stringent emission limits than those established under section 111 or those necessary to attain or maintain the NAAQS under section 110, including the emission offset policy requirements outlined here. Thus, new sources may in some cases be subject to limitations more stringent than EPA's standards of performance under section 111, and prospective owners and operators of new sources should be aware of this possibility in planning for such facilities.

Selection of the Source Category, Pollutants, and Affected Facilities. Section 111 of the Act directs the Administrator to establish standards of performance

for new and modified stationary sources that may contribute significantly to air pollution which causes or contributes to the endangerment of public health or welfare. Lime manufacturing plants have been shown to be a significant source of particulate matter emissions. A study performed for EPA in 1975 by The Research Corporation of New England ranked the lime industry twenty-fifth on a list of 112 stationary source categories which are emitters of particulate matter. Lime plants have also been identified as sources that are capable of contributing to the deterioration of existing air quality (39 FR 42510).

Lime plants have been selected for the development of standards of performance based on the expected growth rate of the industry, the wide range of plant locations across the United States, and the reduction in particulate emissions achievable with application of the best technology for emission control, considering costs. Since 1930, the demand for lime products has been increasing at a growth rate of about five percent per year. This rate is projected to continue through 1982. In 1975, there were 179 lime plants located in 40 states in the United States, producing a total of about 20 teragrams (22 million tons) of lime per year.

Lime plants are sources of emissions of particulate matter, nitrogen oxides (NO_x), carbon monoxide (CO), and sulfur dioxide (SO_2). For the reasons discussed below, at this time standards are proposed only for the control of particulate matter emissions.

NO_x emissions from lime kilns are generally emitted in low concentrations of about 200 ppm. NO_x emission reductions achievable through combustion modification or other control techniques have not been clearly identified for lime kilns. Standards of performance to reduce these emissions are therefore not being proposed.

CO emissions from lime plants are normally in concentrations of about 100 ppm. Emissions of this magnitude would result in an ambient air concentration of less than one percent of the primary ambient air quality standard under adverse meteorological conditions. The most effective control method for CO, incineration of the off-gasses, would create a severe fuel penalty, while producing very little environmental benefit. Consequently, standards of performance for control of CO emissions from lime kilns are not being proposed.

SO_2 emissions from lime kilns are due primarily to the presence of sulfur in the fuel used to fire the kiln. Potential emissions of SO_2 from a 907 Mg (1000 ton) per day lime kiln firing a coal of about 3 percent sulfur would amount to about 295 kg (650 pounds) per hour. Due to the reaction between the lime dust and the SO_2, however, a significant reduction in SO_2 emissions results. When dry particulate control, such as a baghouse or an ESP, is used, SO_2 emissions are reduced by about 85–90 percent. This SO_2 reduction can be increased to about 95 percent if a venturi scrubber is used for particulate control. These efficiencies are based on the results of EPA source tests performed on rotary kilns at several lime manufacturing plants.

Consideration of the potential environmental, economic and energy impacts, however, has convinced EPA to not propose an SO_2 standard which would force the use of venturi scrubbers. First, scrubbers use about six times more energy than do baghouses. (It should be noted, however, that despite the fact that this leads to SO_2 emissions from the power plant used to produce this energy, a net reduction in SO_2 emissions is achieved.)

Second, although scrubbers achieve lower actual SO_2 emissions than baghouses, concentrations of SO_2 in the ambient air may generally not be any lower. This is because the temperature of the stack gases from a scrubber is lower than that from a baghouse resulting in less efficient dispersion of the emissions.

Third, the annual operating costs associated with the use of a scrubber for particulate and SO_2 control is more than twice the costs of using a dry control system such as a baghouse. These costs are directly attributable to the increased power requirements of a scrubber. The beneficial impact of reducing SO_2 emissions that is achieved by using a scrubber, therefore, is attained at a relatively large economic impact.

This economic impact and the associated adverse environmental impact on water pollution, solid waste disposal and increased energy consumption are not considered reasonable in light of the relatively small beneficial impact on air quality. The Administrator has determined, therefore, that a standard of performance for control of SO_2 from lime kilns is not justified and an SO_2 standard is not being proposed.

Particulate matter is emitted from both the lime kiln and the lime hydrator. Potential particulate emissions from uncontrolled facilities would amount to about 15 kilograms per megagram (kg/Mg) of limestone feed from the kiln and about 20 kg/Mg of lime feed from the hydrator. The average State emission limit for both kilns and hydrators is 0.5 kg/Mg of feed. Through application of the best demonstrated emission control technology, the emissions from these facilities could be further reduced to 0.15 kg/Mg from the kiln and 0.075 kg/Mg from the hydrator. These emission rates represent incremental reductions in particulate emissions from rotary lime kilns and lime hydrators controlled to comply with the average State standard of 70 and 85 percent, respectively.

Lime kilns and hydrators account for virtually all of the particulate matter emitted from lime plants. Small amounts of fugitive particulate emissions may occur from various points in the process, but these have not been quantified and applicable control technology has not been investigated. No standards for control of fugitive emissions, therefore, are being proposed.

Rotary Lime Kilns. The lime kiln is the largest source of particulate emissions at a lime manufacturing plant. Although there are several types of kilns in use by the industry, the proposed standards would apply only to rotary kilns. Approximately 90 percent of the lime produced in the U.S. is produced in rotary kilns, and virtually all the new kilns that have been built in the last few years have been of the rotary type. The rotary kiln is the only kiln that can utilize coal for fuel and still maintain acceptable product quality. Since the lime manufacturing industry desires the capability in the future to burn coal, the present trend is to build and operate rotary kilns whenever possible.

The format of the proposed particulate standard for the kiln could be either a concentration standard or a mass-per-unit-of-limestone standard. Concentration standards are normally easier to enforce than mass standards. A concentration standard, however, would penalize the more energy efficient kiln operations. Since reduced fuel consumption results in smaller exhaust gas volumes, a concentration standard would require the most energy efficient kiln operators to achieve a higher degree of control.

The major problem usually associated with mass-per-unit-of-feed standards is determining the feed rate. The feed rate of the limestone into the kiln, however, is measured routinely at lime plants, thereby allowing the emission rate to be calculated directly. Since the mass-per-unit-of-limestone feed format is more equitable for the energy efficient lime producers, this format is used for the proposed standard.

EPA considers the following three devices to be representative of the best systems of emission reduction, considering costs, for particulate matter: (1) fabric filters, (2) electrostatic precipitators (ESP), and (3) venturi scrubbers.

Source tests were conducted on three baghouses, two ESP's and one scrubber. Particulate emissions from the test runs on the lime kilns controlled by baghouses or ESP's ranged from 0.016 to 0.290 kg/Mg of feed (0.033 to 0.580 lb/ton), and averaged 0.10 kg/Mg (0.20 lb/ton). One out of the three baghouses tested did not meet the level of the proposed standard. All three baghouses tested were operating under essentially the same conditions. However, for reasons explained in detail in the SSEIS, it is EPA's judgment that the baghouse that did not meet the level of the proposed standard does not represent the best control technology and the data obtained from that facility are not used in the selection of the proposed standard.

EPA also tested one scrubber for particulate emissions and found an emission rate of about 0.22 kg/Mg at a pressure drop of about 3.7 kilopascals (15 inches w.c.). This scrubber, however, is not considered to represent best technology. As explained in the SSEIS, a venturi scrubber with a higher pressure drop of about 5.4 kilopascals (22 inches w.c.) would meet the level of the proposed standard in EPA's judgment.

The results of the source tests on the four rotary lime kilns that were consid-

ered to represent the best control technology (two baghouses and two ESP's) support a particulate standard of 0.15 kg/Mg (0.3 lb/ton). A standard of 0.15 kilogram of particulate matter per megagram of limestone feed, therefore, is being proposed for rotary lime kilns.

Visible emissions data were gathered during particulate tests at six lime plants. All of the 1056 six-minute average opacity values were obtained as specified in EPA Reference Method 9. An analysis of the distribution of the data shows that over two-thirds of the six-minute averages were equal to zero percent opacity and over 99 percent of the readings fall between zero and 10 percent opacity. Based on these data, the proposed standard would limit visible emissions to 10 percent opacity. This would insure that the best system of emission reduction, installed to comply with the particulate standard, is properly operated and maintained.

When a scrubber is used for control of the particulate emissions, it is very difficult to accurately read visible emissions because of the steam plume that is present. Due to enforcement difficulties, an opacity standard would not be effective in this case, and EPA is therefore excluding rotary lime kilns controlled with scrubbers from the proposed opacity standard.

Lime Hydrators. Lime hydrators are also significant sources of particulate matter at lime manufacturing plants. Currently, hydrators are used to treat about 10 percent of the lime produced in the U.S. Both pressure and atmospheric lime hydrators are covered by the proposed standards.

The format of the proposed standard is a mass-per-unit-of-lime feed. A concentration format was not selected because the gas volume from the hydrator scrubber is not proportional to the production rate and therefore it is not possible to prevent dilution by correcting to zero percent oxygen and water. A low particulate concentration, therefore, would not necessarily result in a low mass emission rate. Since the feed rate of the lime into the hydrator can be easily measured, the emission rate can be calculated directly.

Scrubbers are the most widely used method of particulate control on lime hydrators. EPA source tested two scrubbers in use on atmospheric hydrators. The range of the six test runs on the two facilities was 0.032 to 0.087 kg/Mg (0.065 to 0.173 lb/ton). Compliance with the regulations is determined from an average of three test runs on an affected facility [40 CFR 60.8(f)]. The average of the three tests on the first unit was 0.04 kg/Mg (0.08 lb/T) and the average of the three tests on the second unit was 0.06 kg/Mg (0.12 lb/T). Setting the proposed standard at 0.075 kg/Mg (0.15 lb/ton) assures that the owner or operator of the hydrator would be required to install and operate the best control device.

Due to the presence of a steam plume from the scrubber stack, no accurate visible emissions readings could be taken. EPA believes that an opacity standard for this facility would be ineffective due to enforcement difficulties. No standard of performance limiting visible emissions from the hydrator, therefore, is being proposed.

Consideration of Impacts

The proposed standards would reduce the particulate emissions from new lime kilns by 99 percent below the levels that would occur with no control and by 70 percent below the levels required by a typical State standard for existing sources. The proposed standards would also reduce particulate emissions from new lime hydrators by 85 percent compared to the requirements of the average State standard. The maximum 24-hour average ambient air concentration of particulate matter due to emissions from a typical lime kiln controlled to the level required by the proposed standard would be about 2.0 micrograms per cubic meter ($\mu g/m^3$).

The secondary environmental impacts due to the proposed standards would be minor. There would be no impact on water pollution. Solid waste handling and disposal problems would be minimal. All of the particulate collected from the hydrators can be returned to the process. When dry control systems are used on the lime kiln, the additional amount of solid waste generated is estimated to be about 3 percent. A negligible amount of particulate matter, sulfur dioxide, and nitrogen oxides would be discharged into the air by the power plant which supplies the additional electrical power required to meet the proposed standards.

In the absence of standards of performance, the lime manufacturing industry would be expected to follow the current trends in particulate control to meet the applicable State standards. It is estimated that 60 percent of the industry would use a baghouse, 20 percent would use a scrubber, and 20 percent would use an ESP for control. The expected distribution of control techniques to comply with the proposed standards is 80 percent baghouse control and 20 percent ESP control. The difference in energy consumption between these two forecasted distributions in the use of various emission control techniques amounts to an energy savings of about 12.6×10^6 kw-hr/yr in 1982. This is equivalent to approximately 9 m^3 (55 barrels) of oil per day in 1982 and represents a total energy savings of about 0.2 percent for a new lime manufacturing plant.

The control costs that new, modified, and reconstructed lime plants would incur to meet the emission level required by the proposed standards are considered reasonable. The capital costs for typical new lime plants would be increased by about 3.5 percent. The price of the lime product would increase by only about three percent. The proposed standards, therefore, are expected to have minimal impact on the future growth rate of the lime industry.

Testing, Monitoring, and Recordkeeping

Performance tests to determine compliance with the proposed standards would be required. Reference Method 5 (40 CFR Part 60, Appendix A) would be used to measure the amount of particulate emissions. In addition, Method 2 for velocity and volumetric flow rate, Method 3 for gas analysis, and Method 4 for stack gas moisture would be used to determine the necessary emission data.

A measurement of the mass rate of feed would also be required during a performance test, because the units of the proposed standards for the rotary lime kiln and the hydrator are kilograms of particulate per megagram of limestone or lime feed. A measuring device such as a conveyor belt scales would be required to determine the mass rate of feed. This device must be accurate to within ±5 percent over its operating range.

The proposed standards would require continuous monitoring of the opacity of the visible emissions discharged from the lime kiln. When a scrubber is used to control the emissions, entrained water droplets prevent the accurate measurement of opacity; therefore, in this case the proposed standard would require monitoring the pressure drop across the scrubber and the scrubbing fluid supply pressure to the scrubber rather than opacity. The pressure sensor or tap for the monitoring device used on the kiln scrubber should be located close to the scrubber liquid discharge point. The Administrator may be consulted for approval of alternative locations.

No opacity data were obtained for emissions from the lime hydrator, and no opacity standard is being proposed. Monitoring of the operating parameters of the scrubber presents a good indication of scrubber performance. The proposed regulations therefore require monitoring of the water flow rate to the scrubber and of the electric current used by the scrubber rather than opacity.

Excess emissions for the lime kiln are defined as all six-minute periods in which the average opacity of the stack plume exceeds 10 percent. The provisions for the reporting of these excess emissions are contained in § 60.7(c) of Part 60. No definition of excess emissions from lime hydrators is included in the proposed regulations since no opacity standard has been developed.

Records of performance tests and continuous monitoring system measurements would have to be retained for at least two years following the date of the measurements by owners and operators subject to this subpart. This requirement is included under § 60.7(d) of the general provisions of Part 60.

Miscellaneous

As prescribed by section 111 of the Act, this proposal of standards has been preceded by the Administrator's determination that emissions from lime manufacturing plants contribute to air pollution which causes or contributes to

the endangerment of public health or welfare, and by his publication of this determination in this issue of the FEDERAL REGISTER. In accordance with section 117 of the Act, publication of these proposed standards was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies.

Interested persons are invited to participate in this rulemaking. The administrator will welcome comments on all aspects of the proposed regulations, including the designation of the source category of lime manufacturing plants as a significant contributor to air pollution which causes or contributes to the endangerment of public health or welfare, economic and technological issues, and the proposed test methods.

Economic Impact Analysis. The screening criteria used by EPA to determine if a proposal is a major action under the Economic Impact Statement program are: (1) additional national annualized compliance costs, including capital charges, will total $100 million within any calendar year by the attainment date, if applicable, or within five years of implementation; (2) total additional cost of production is more than five percent of the selling price; and (3) net national energy consumption will be increased by the equivalent of 25,000 barrels of oil a day (ca. 4,000 m^3 per day). EPA has determined that the impacts associated with the proposal of these standards of performance do not exceed these screening criteria. This action, therefore, does not contain a major proposal requiring preparation of an Economic Impact Analysis under Executive Orders 11821 and 11949 and OMB Circular A-107.

Authority. This notice of proposed rulemaking is issued under the authority of sections 111, 114 and 301(a) of the Clean Air Act, as amended, Pub. L. 91-604, 84 Stat. (42 U.S.C. 1857c-6, 1857c-9, 1857g(a)).

Dated: April 20, 1977.

DOUGLAS M. COSTLE,
Administrator.

It is proposed to amend Part 60 of Chapter I of Title 40 of the Code of Federal Regulations as follows:

1. By adding subpart HH as follows:

Subpart HH—Standards of Performance for Lime Manufacturing Plants

Sec.
60.340 Applicability and designation of affected facility.
60.341 Definitions.
60.342 Standard for particulate matter.
60.343 Monitoring of emissions and operations.
60.344 Test methods and procedures.

AUTHORITY: Secs. 111 and 301(a), Clean Air Act, as amended by sec. 4(a) and sec. 15(c)(2) of Pub. L. 91-604, 84 Stat. 1683, 1713; 81 Stat. 504 (42 U.S.C. 1857c-6, 1857g(a); secs. 60.343 and 60.344 also issued under sec. 114 Clean Air Act, as amended by sec. 4(a) of Pub. L. 91-604, 84 Stat. 1687 (42 U.S.C. 1857c-9).

Subpart HH—Standards of Performance for Lime Manufacturing Plants

§ 60.340 Applicability and designation of affected facility.

The proviisons of this subpart are applicable to the following affected facilities used in the manufacture of lime: rotary lime kilns and lime hydrators.

§ 60.341 Definitions.

As used in this subpart, all terms not defined herein shall have the same meaning given them in the Act and in subpart A of this part.

(a) "Lime manufacturing plant" includes any plant which produces a lime product from limestone by calcination. Hydration of the lime product is also considered to be part of the source.

(b) "Lime product" means the product produced by the calcination process including, but not limited to, calcitic lime, dolomitic lime, and dead-burned dolomite.

(c) "Rotary lime kiln" means a unit with an inclined rotating drum which is used to produce a lime product from limestone by calcination.

(d) "Lime hydrator" means a unit used to produce hydrated lime product.

§ 60.342 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere:

(1) From any rotary lime kiln any gases which: (i) Contain particulate matter in excess of 0.15 kilogram per megagram of limestone feed; (ii) Exhibit 10 percent opacity or greater.

(2) From any lime hydrator any gases which contain particulate matter in excess of 0.075 kilogram per megagram of lime feed.

§ 60.343 Monitoring of emissions and operations.

(a) The owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in paragraph (b) of this section, to monitor and record the opacity of the gases discharged into the atmosphere from any rotary lime kiln. The span of this system shall be set at 40 percent opacity.

(b) The owner or operator of any rotary lime kiln using a wet scrubbing emission control devise subject to the provisions of this subpart shall not be required to monitor the opacity of the gases discharged as required in paragraph (a) of this section, but shall install, calibrate, maintain, and operate the following continuous monitoring devices:

(1) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be accurate within ±250 pascals gauge pressure.

(2) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control device. The monitoring device must be accurate within ±5 percent of design scrubbing liquid supply pressure.

(c) The owner or operator of any lime hydrator using a wet scrubbing emission control device subject to the provisions of this subpart shall install, calibrate, maintain, and operate the following continuous monitoring devices:

(1) A monitoring device for the continuous measuring of the scrubbing liquid flow rate. The monitoring device must be accurate within ±5 percent of design scrubbing liquid flow rate.

(2) A monitoring device for the continuous measuring of the electric current, in amperes, used by the scrubber. The monitoring device must be accurate within ±10 percent over its normal operating range.

(d) For the purpose of conducting a performance test under § 60.8, the owner or operator of any lime manufacturing plant subject to the provisions of this subpart shall install, calibrate, maintain and operate a device for measuring the mass rate of limestone feed to any affected rotary lime kiln and the mass rate of lime feed to any affected lime hydrator. The measuring device used must be accurate to within ±5 percent of the mass rate over its operating range.

(e) For the purpose of reports required under § 60.7(c), periods of excess emissions that shall be reported are defined as all six-minute periods during which the average opacity of the plume from any lime kiln subject to paragraph (a) of this subpart exceeds 10 percent.

§ 60.344 Test methods and procedures.

(a) Reference methods in Appendix A of this part, except as provided under § 60.8(b) shall be used to determine compliance with § 60.322(a) as follows:

(1) Method 5 for the measurement of particulate matter,

(2) Method 1 for sample and velocity traverses,

(3) Method 2 for velocity and volumetric flow rate,

(4) Method 3 for gas analysis.

(5) Method 4 for stack gas moisture, and

(6) Method 9 for visible emissions.

(b) For Method 5, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 dscm/hr (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Administrator.

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ENVIRONMENTAL PROTECTION AGENCY

[FRL 704-2]

AIR POLLUTION PREVENTION AND CONTROL

Addition to the List of Categories of Stationary Sources

Section 111 of the Clean Air Act (42 U.S.C. 1857c-6) directs the Administrator of the Environmental Protection Agency to publish, and from time to time revise, a list of categories of stationary sources which he determines may contribute significantly to air pollution which causes or contributes to the endangerment of public health or welfare. Within 120 days after the inclusion of a category of stationary sources in such list, the Administrator is required to propose regulations establishing standards of performance for new and modified sources within such category. At present standards of performance for twenty-four categories have been promulgated.

The Administrator, after evaluating available information, has determined that lime manufacturing plants are an additional category of stationary sources which meets the above requirements. The basis for this determination is discussed in the preamble to the proposed regulation that is published elsewhere in this issue of the FEDERAL REGISTER. Evaluation of other stationary source categories is in progress, and the list will be revised from time to time as the Administrator deems appropriate. Accordingly, notice is given that the Administrator, pursuant to section 111(b)(1)(A) of the Act and after consultation with appropriate advisory committees, experts, and Federal departments and agencies in accordance with section 117(f) of the Act, effective May 3, 1977, amends the list of categories of stationary sources to read as follows:

LIST OF CATEGORIES OF STATIONARY SOURCES AND CORRESPONDING AFFECTED FACILITIES

• • •	• • •
Source category	*Affected facilities*
31. Lime Manufacturing	Rotary lime kilns.
Do	Lime hydrators.

Proposed standards of performance applicable to the above source category appear elsewhere in this issue of the FEDERAL REGISTER.

Dated: April 20, 1977.

DOUGLAS M. COSTLE,
Administrator.

[FR Doc.77-12464 Filed 5-2-77;8:45 am]